



LG

Life's Good

LG Canada HVAC Technical Support

866-543-8324

www.LGcomfort.ca

Ductless HVAC & PTAC Error Codes

01, 1, C1 and CH01 are all the 1 code

IDU = Indoor Unit

ODU = Outdoor Unit

PCB = Printed Circuit Board

LG Inverter units have a V in the model number, such as **LSU121HSV** and use a 3-phase compressor.

Single phase unit feed is converted to 3-phase to power the compressor in ODU PCB. Variable Hz controls compressor speed.

10 & 13 SEER single speed compressor systems (never a V in model number) show error codes at the indoor unit only.

Thermistor ohm charts including proper checkout procedure are at the end of this document.

The first digit in LG serial numbers is one-digit year (9=2009 or 2=2012). Second & third digits are two-digit month (07=July).

Power

1 digit (1, 2, 3, etc)

WLAN

10 digit (10, 20, 30, etc)

Preheating

LSN091HSV3, LSN121HSV3, LSN181HSV3 indoor

10 digit (10, 20, 30, etc)



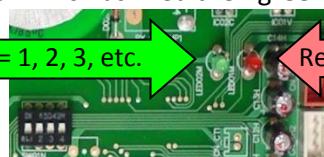
1, 2, 3, etc

LSN240HSV, HSV2 and HSV3.

LSN305, LSN306, LSN307, LSN360 models in HV, HV2, HV3

Inverter outdoor:

LSxxxHSV, LAxxxHSV, LSxxxHSV2, LAxxxHSV2,
LSxxxHV, LSxxxHV2, LSxxxHV3, LSU181HSV3,
LSU240HSV3, LSU307HV3, LSU360HV3, LMUxxxHV Multi
outdoor LEDs flash red then green



(Single speed compressor units show errors indoors only)

Inverter outdoor:

LSU091HSV3, LSU121HSV3, LAU090HYV, LAU120HYV
Red LED only, shines thru hole in board:
blinks 10, 20, 30 etc. followed by 1,2,3, etc.



Cooling

1 digit (1, 2, 3, etc)

Heating

10 digit (10, 20, 30, etc)

(Plasma is Preheating on LGNxxxHSV models)

Single Zone HSV & HSV2, Multi white indoor

POWER

PLASMA

PREHEATING

1 digit (1, 2, 3, etc)

10 digit (10, 20, 30, etc)

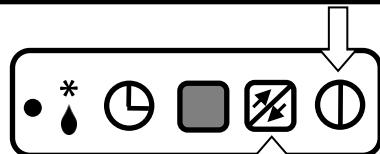
HSV & HSV2, Multi mirror indoor

10 digit (10, 20, 30, etc)



1, 2, 3, etc

10 & 13 SEER indoor units. Single speed compressor
errors shown indoors only, not on outdoor unit



1, 2, 3, etc

10 digit (10, 20, 30, etc)

Ceiling cassette indoor unit

Inverter (variable speed compressor) units run on R-410a

(Always a V in the model number)

DO NOT use a volt meter that auto-detects DC or AC-you will mis-diagnose the system.

1 2 3 wire functions and voltages:

- 1 120V AC
- 2 120V AC and common for communication
- 3 communication

1 - 2 Will be 208/230V. 193 - 253 is acceptable range.

2 - 3 Will be *approximately* 0 - 65V DC float. Do not read 3 to ground-it will not tell us what we need to know.

The #2 wire does have AC and DC voltage on it. Generally speaking, 0 or low constant voltage on 2 & 3 will be a failed outdoor board and constant high voltage will be a failed indoor board.

13 SEER single indoor/single outdoor units run on R-410a

10 SEER single indoor/single outdoor units run on R-22

(Never a V in the model number)

1 2 3 4 wire functions and voltages:

- 1 fan
- 2 indoor unit power
- 3 indoor unit common
- 4 communication

All DC voltage is measured to the #3 common wire:

1 - 3 0V DV when indoor fan is off, 20 - 36V DC when fan is running low through high speed.

2 - 3 14 - 18V DC constantly

4 - 3 0 - 12V DC float

Do not read any wire to ground-it will not tell us what we need to know.

Generally speaking, 0 or low constant voltage on 4 & 3 will be a failed outdoor board and constant high voltage will be a failed indoor board.

13 SEER Flex Multi (LMO240_ and LMO360_ only) units run on R-410a

1 2 3 4 wire functions and voltages:

- 4 fan
- 3 indoor unit power
- 2 indoor unit common
- 1 communication

All DC voltage is measured to the #2 common wire:

4 - 2 0V DV when indoor fan is off, 20 - 36V DC when fan is running low through high speed.

3 - 2 14 - 18V DC constantly

1 - 2 0 - 12V DC float

Do not read any wire to ground-it will not tell us what we need to know.

Generally speaking, 0 or low constant voltage on 1 & 3 will be a failed outdoor board and constant high voltage will be a failed indoor board.

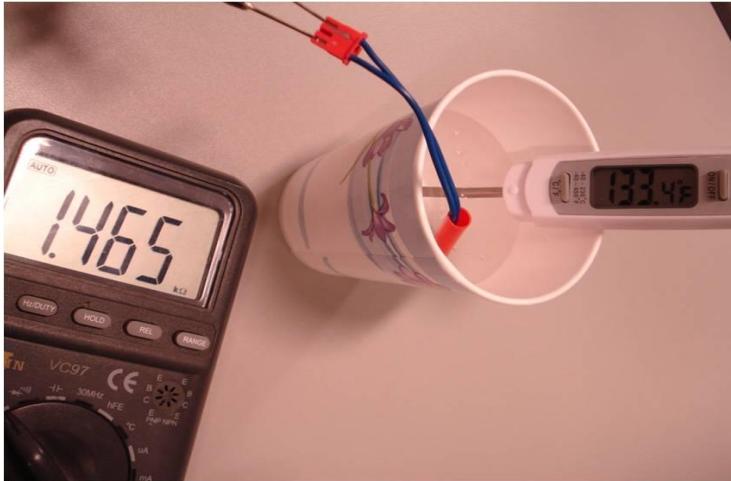
0	Error code not used
CO	PCB sees IDU air thermistor as open or shorted . Must be 5,600Ω at 38°C/100°F & 20,700Ω at 10°C/50°F. Ohm thermistor in water, measure the water temperature, with perfect thermistor & plug connection, change PCB.
CA	PCB sees ODU discharge pipe thermistor as open or shorted . Must be 244,000Ω at 20°C/68°F, 24.400Ω at 90°C/194°F. Ohm thermistor in water, measure water temperature-with perfect thermistor & plug connection, change PCB.
CC	13 SEER Flex Multi (with dual single speed compressors) EEPROM error. Too much combined capacity of IDUs in relation to ODU. 130% maximum. IDU EEPROM is small PCB the size of your thumbnail. Part will be referred to as PCB, Options on LG's parts system.
Cd	Reactor or electronic noise filter failure. Copper coil around magnet in ODU-replace this item. Same error code as 13
CE	Compressor Phase Current Error, see error code #14
CL	Child Lock. Press Timer & Min buttons simultaneously for 5 seconds to engage/disengage function.
HL	Condensate pump float switch risen/open. Check drain pan is empty, check pump is working OK. If no pump, ensure blue jumper plug is inserted in IDU PCB plug CN_FLOAT. If applicable, ensure Dry Contact Interface is in "OFF" condition. Check status and adjust as necessary. With Central Controller, if ALL system functions are locked, HL will appear and is not an error code.
Po	Jet Cool Mode: To cancel, press Jet Cool, Fan Speed or Set Temperature button.
RE	PTAC set for wall-mount thermostat by setting DIP switch 1 to on position. DIP switch #1 off = touch pad controls on unit, DIP switch #1 on=remote thermostat.
PF	PTAC Freeze Protection mode, indoor air thermistor shows PCB room temp less than 5°C/40°F. If room is not this temp, air thermistor = 5,600Ω at 38°C/100°F & 20,700Ω at 10°C/50°F. Ohm thermistor in water, measure water temperature-with perfect thermistor & plug connection, change PCB.
F1	Low speed fan on PTAC, this is normal.
F2	High speed fan on PTAC, this is normal.
	<u>LA09xHV, LA12xHV, LS902HPV and LS122HPV Inverter:</u> PCB sees IDU pipe OR air thermistor as open or shorted. Pipe=2,800Ω at 38°C/100°F & 10,000Ω at 10°C /50°F. Air=5,600Ω at 38°C/100°F & 20,700Ω at 10°C/50°F. Ohm thermistor in water, measure water temperature-with perfect thermistor & plug connection, change PCB.
	<u>10 & 13 SEER:</u> PCB sees IDU pipe OR air thermistor as open or shorted . Pipe=2,800Ω at 38°C/100°F & 10,000Ω at 10°C /50°F. Air=5,600Ω at 38°C/100°F & 20,700Ω at 10°C/50°F. Ohm thermistor in water, measure water temperature-with perfect thermistor & plug connection, change PCB.
	<u>PTAC:</u> PCB sees IDU air thermistor as open or shorted . Must be 5,600Ω at 38°C/100°F & 20,700Ω at 10°C/50°F. Ohm thermistor in water, measure the water temperature, measure water temperature-with perfect thermistor & plug connection, change PCB.
2	<u>Inverter:</u> PCB sees IDU inlet pipe thermistor as open or shorted . Must be 2,800Ω at 38°C / 100°F & 10,000Ω at 10°C/50°F. Ohm thermistor in water, measure the water temperature, with perfect thermistor & plug connection, change PCB. <u>LA09xHV, LA12xHV, LS902HPV , LS122HPV Inverter:</u> PCB sees any ODU thermistor as open or shorted. Pipe=2,800Ω at 38°C/100°F & 10,000Ω at 10°C /50°F. Air=5,600Ω at 38°C/100°F & 20,700Ω at 10°C/50°F. Discharge = 244,000Ω at 20°C/68°F, 24.400Ω at 90°C/194°F.Ohm thermistor in water, measure water temperature, with perfect thermistor & plug connection, change PCB. <u>10 & 13 SEER:</u> PCB sees any ODU or IDU pipe thermistor OR air thermistor as open or shorted . Pipe = 5,000Ω at 25°C / 77°F & 10,000Ω at 10°C/50°F. Air = 10,000Ω at 25°C/77°F & 20,700Ω at 10°C/50°F. Ohm thermistor in water, measure the water temperature, with perfect thermistor & plug connection, change PCB. <u>PTAC:</u> PCB sees IDU pipe thermistor as open or shorted . Pipe must be 2,800Ω at 38°C / 100°F & 10,000Ω at 10°C/50°F. Ohm thermistor in water, measure water temperature-with perfect thermistor & plug connection, change PCB.
3	<u>10 & 13 SEER Flex Multi units (no V in model number):</u> Different mode operation-IDUs must be set all to heat or all to cool. <u>Inverter units (with V in model #):</u> Communication error between IDU & hard-wired controller. Ensure only LG factory wire is used & properly plug connection from IDU PCB - wire stub - wire - controller. <u>PTAC:</u> PCB sees outdoor air thermistor as open or shorted . Must be 5,600Ω at 38°C/100°F & 20,700Ω at 10°C/50°F. Ohm thermistor in water, measure water temperature-with perfect thermistor & plug connection, change PCB.
4	<u>LA09xHV, LA12xHV, LS902HPV & LS122HPV:</u> ODU PCB Heat Sink thermistor open, shorted or over-heated to 95°C. Must be 5,600Ω at 38°C/100°F & 20,700Ω at 10°C/50°F. Ohm thermistor in water, measure water temperature-with perfect thermistor & plug connection, change PCB. <u>IDU Condensate pump float switch risen / opened.</u> Check drain pan is empty & pump working. If no pump, ensure blue jumper plug inserted in IDU PCB plug CN_FLOAT.
5	<u>All split systems</u> -communication error between IDU & ODU PCB-check wiring (123 or 1234 wires at ODU MUST BE SAME COLOR as 123 or 1234 wires on IDU-wiring is always polarity sensitive regardless of equipment type), condensate pump float switches must break #1 on all inverters and #2 on 36V DC single units, #3 on 36V DC Flex Multi units. Unwire any auxiliary switches. <u>Inverters (all units with a V in model #):</u> Voltage on wires 2 & 3 must float between <u>approximately</u> 0 - 65V DC. <u>DO NOT</u> use a volt meter that automatically detects AC or DC voltage-it will read exactly wrong and cause a mis-diagnosis. Wires 1 & 2 carry 230V AC, wires 2 & 3 carry 65V DC. Ensure wiring connection at IDU is 1 2 Ground 3 <u>10 & 13 SEER single IDU/single ODU (LS or LA model #s with no V in model #):</u> Voltage on 3 & 4 wires must float between 0-12V DC. <u>10 & 13 SEER Flex Multi units (LM model #s with no V in model #):</u> Voltage on 1 & 2 wires must float between 0-12VDC. <u>All Units of all families:</u> Steady low or zero V DC is generally failed ODU PCB & steady high voltage DC is generally failed IDU PCB. Ensure $\infty \Omega$ between wires, wires to ground or wires to shield. Electrically check all fuses at IDU / ODU. <u>Inverter Flex Multi (LMUxxxHV):</u> Ensure IDU wires are not switched between IDUs. 1A & 1B on one terminal, 2A & 2B on one terminal, 3A alone, 3B alone, 3C alone, 3D alone. <u>PTAC:</u> Mode error-verify proper dip switch settings & thermostat wiring if remote thermostat is used.

6	<p><u>LA09xHV, LA12xHV, LS902HPV & LS122HPV:</u> DC Peak Error OR condenser coil over 149°F. Check all of the following: For DC peak error, verify proper 208V or 240V AC feeding unit, verify 3 compressor wires not switched, verify compressor not seized, verify 1-4Ω between all compressor terminals. For condenser coil over 149°F, verify outdoor liquid line thermistor (in cooling mode) or indoor coil thermistor (in heating mode) is accurate-must be 2,800Ω at 38°C / 100°F & 10,000Ω at 10°C/50°F. Ohm thermistor in water, measure water temperature-with perfect thermistor & plug connection, change PCB. Verify system is not undercharged-undercharge will cause not only high condenser temperature but high compressor motor temperatures & increase amperage. If all options have been tried, weigh out charge with electronic scale & measure lineset length. Charge on ODU label is for ODU/IDU/25' lineset. Charge is adjusted on these models at .22 ounces/foot</p> <p><u>All other inverters:</u> PCB sees IDU outlet pipe thermistor as open or shorted. Must be 2,800Ω at 38°C / 100°F & 10,000Ω at 10°C/50°F. Ohm thermistor in water, with perfect thermistor & plug connection, change PCB.</p> <p><u>PTAC:</u> DIP switches 3, 4, 5 for temperature limiting are not set properly. Your current setting has a conflict.</p>
7	<p><u>Flex Multi:</u> Different mode operation-indoor units must be set either all to heat or all to cool.</p> <p><u>LS902HPV, LS122HPV, LA09xHV, LA12xHV:</u> Compressor Over Amperage-verify proper 208V or 240V AC feeding unit, ensure unit is not operating in high-head situation, verify 1-4Ω between all compressor terminals.</p> <p><u>PTAC:</u> Thermistor error-verify proper DIP switch settings: 6 OFF+7 OFF= heat pump. 6 OFF+7 ON=cooling + electric heat.</p> <p>If used, verify wall-mount thermostat properly wired for heat pump or cool-only. With cool only unit: GH, B and O terminals are not used.</p>
8	<p><u>IDU</u> fan motor not rotating or proving rotation. Verify fan motor plugged in correctly & fan rotates freely.</p> <p>This can be a failed motor, failed board or motor could have failed and caused board failure as well.</p> <p><u>LS902HPV, LS122HPV, LA09xHV, and LA12xHV:</u> Verify 310V DC on motor wires separated by empty terminals on plug with motor plugged in, 0V DC = failed PCB, 310V DC = likely failed motor. Next step: Unplug motor and manually spin the fan (keep it spinning): on same wires you just tested, 0V DC indicates motor failed and caused board failure. 14-30V DC indicates a good motor.</p> <p><u>10 & 13 SEER:</u> if motor is not rotating, verify 19-36V DC between DC common & fan leg (wire designation varies by 10 SEER, 13 SEER single & 13 SEER Flex Multi-see previous page explaining 1 2 3 4 wire functions.</p>
9	<p><u>LS902HPV, LS122HPV LA09xHV, LA12xHV:</u> ODU fan motor not rotating or proving rotation. Verify fan motor plugged in correctly & fan rotates freely.</p> <p>This can be a failed motor, failed board or motor could have failed and caused board failure as well.Verify 310V DC on motor wires separated by empty terminals on plug with motor plugged in, 0V DC = failed PCB, 310V DC = likely failed motor. Next step: Unplug motor and manually spin the fan (keep it spinning): on same wires you just tested, 0V DC indicates motor failed and caused board failure. 14-30V DC indicates a good motor.</p> <p><u>All other Inverter units (V in model #):</u> Indoor unit EEPROM error – failed EEPROM (thumbnail size IDU PCB) or mismatched IDU / ODU.</p> <p><u>PTAC models except ending in "B":</u> High pressure switch tripped. If sleeve is too deep, condenser air will recirculate in sleeve and trip high pressure switch. With extended sleeves, air splitters must be used to separate condenser intake and exhaust air.</p> <p><u>PTAC models ending in "B":</u> Failed EEPROM, replace main PCB.</p> <p>Inverter Flex Multi LMUxxxHV: EEPROM error-call LG Tech Support with model and serial number.</p>
10	<p><u>LS902HPV, LS122HPV LA09xHV, and LA12xHV:</u> PCB sees ODU discharge pipe thermistor open/shorted. Must be 244,000Ω at 20°C/68°F & 24.400Ω at 90°C/194°F. Ohm thermistor in water, with perfect thermistor & plug connection, change PCB.</p> <p><u>All other Inverters:</u> ODU fan motor not rotating or proving rotation. Verify fan motor plugged in correctly & fan rotates freely.</p> <p>This can be a failed motor, failed board or motor could have failed and caused board failure as well.</p> <p>Verify 310V DC on motor wires separated by empty terminals on plug with motor plugged in, 0V DC = failed PCB, 310V DC = likely failed motor.</p> <p>Next step: Unplug motor and manually spin the fan (keep it spinning): on same wires you just tested, 0V DC indicates motor failed and caused board failure. 14-30V DC indicates a good motor.</p> <p>PTAC: same as inverter</p> <p><u>10 & 13 SEER 36V DC IDUs:</u> IDU fan failure: if motor is not rotating, verify 19-36V DC between DC common & fan leg (wire designation varies by 10 SEER, 13 SEER single & 13 SEER Flex Multi-see page 2 of this document for wire functions).</p>
11	Error code not used
12	PCB sees IDU middle pipe thermistor as open or shorted. Must be 2,800Ω at 38°C / 100°F & 10,000Ω at 10°C/50°F. Ohm thermistor in water, with perfect thermistor & plug connection, change PCB.
13	Reactor or electronic noise filter failure. Copper coil around magnet in ODU-replace this item. Same error code as Cd
14	Compressor Phase Amperage Error
	15, 16, 17, 18, 19, 20 Error code not used
21	Inverter compressor high amperage-verify proper 208/240V AC feeding unit, ensure unit is not operating in high-head situation, verify 3 compressor windings are all equal at 1-4Ω , verify ∞ Ω to ground, check amperage. Verify system is not undercharged-undercharge will cause high compressor motor temperatures & increase amperage. Weigh out charge with electronic scale & calculate lineset length.
22	Inverter unit high amperage-verify proper 208/240V AC feeding unit, ensure unit is not operating in high-head situation, verify 3 compressor windings are all equal at 1-4Ω , verify ∞ Ω to ground, check amperage.
23	Inverter DC link voltage too low-verify proper 208/240V AC feeding unit. Voltage feed must be 193-253V AC. Use appropriate service manual to verify if PCB has failed.
24	High or low pressure switch open. Low pressure opens at 14 PSI, high pressure at 600 PSI. Flex Multi-ensure indoor unit wiring is not switched, sending refrigerant to wrong coil with no IDU fan & causing low pressure condition.
25	Low voltage or high voltage feeding unit-verify proper 208/240V AC feeding unit. Voltage feed must be 193-253V AC.
26	Inverter compressor seized, not rotating or not proving rotation. PCB converts single phase to 3 phase for compressor. Verify 3 compressor windings are all equal at .5-4Ω, verify ∞ Ω to ground, verify equal voltage on compressor 3-phase legs. Verify no flow restrictions-flow restriction in cool mode will pump down system. Flow restriction in heat mode will dead-head compressor.

27	Inverter compressor amperage over 100A for a split second-verify proper 208/240V AC feeding unit, ensure unit is not operating in high-head situation, verify 3 compressor windings are all equal at 1-4Ω, verify ∞ Ω to ground, check amperage, check reactor connections and verify reactor resistance is less than 1Ω.	
28	Inverter DC link voltage too low-verify proper 208/240V AC feeding unit. Voltage feed must be 193-253V AC. Use appropriate service manual to verify if PCB has failed.	
29	Inverter compressor high amperage-verify proper 208/240V AC feeding unit, ensure unit is not operating in high-head pressure condition, verify 3 compressor windings are all equal at 1-4Ω , verify ∞ Ω to ground, check amperage	
	30, 31	Error code not used
32	Inverter compressor 105°C/220°F + in discharge pipe. Verify proper refrigerant charge & ensure unit is not operating in <u>high-head temperature situation</u> . Generally will be refrigerant undercharge, sometimes inaccurate discharge pipe thermistor. Thermistor = 244,000Ω at 20°C/68°F, 24.400Ω at 90°C/194°F. Ohm thermistor in water, ensure it plugs in properly. (LS302HPV, LS305HV, LS306HV & LS307HV have 1 inverter & 1 single speed compressor)	
33	Single speed compressor 105°C/220°F + in discharge pipe. Verify proper refrigerant charge & ensure unit is not operating in <u>high-head temperature situation</u> . Generally will be refrigerant undercharge, sometimes inaccurate discharge pipe thermistor. Thermistor = 244,000Ω at 20°C/68°F, 24.400Ω at 90°C/194°F. Ohm thermistor in water, ensure it plugs in properly. (LS302HPV, LS305HV, LS306HV & LS307HV have 1 inverter & 1 single speed compressor)	
34	High pressure switch opened- over 600 PSI	
35	Low pressure switch opened- under 14 PSI	
	36, 37, 38, 39	Error code not used
40	Inverter PCB amperage sensing circuit failure. Call LG Tech Support for assistance.	
41	PCB sees inverter compressor discharge pipe thermistor as open or shorted. Thermistor must be 244,000Ω at 20°C/68°F, 24.400Ω at 90°C/194°F. Ohm thermistor in water, with perfect thermistor & plug connection, change PCB.	
42	Low pressure switch opened- under 14 PSI	
43	High pressure switch opened- over 600 PSI	
	All inverters: PCB sees ODU air sensor as open or shorted. Must be 5,600Ω at 38°C/100°F & 20,700Ω at 10°C/50°F. Ohm thermistor in water, measure water temperature-with perfect thermistor & plug connection, change PCB.	
44	PTAC: PCB sees outdoor air thermistor as open or shorted. If your unit is an LPxxxC, check DIP switch settings. If your unit is an LPxxxH, check outside air thermistor: must be 5,600Ω at 38°C/100°F & 20,700Ω at 10°C/50°F. Ohm thermistor in water, measure water temperature-with perfect thermistor & plug connection, change PCB.	
	All inverters: PCB sees ODU condenser coil middle (if unit has middle sensor) or exit pipe (liquid line) thermistor as open or shorted . Must be 2,800Ω at 38°C/100°F & 10,000Ω at 10°C/50°F. Ohm thermistor in water, with perfect thermistor & plug connection, change PCB.	
45	PTAC: PCB sees outdoor coil pipe thermistor as open or shorted. Must be 2,800Ω at 38°C / 100°F & 10,000Ω at 10°C/50°F. Ohm thermistor in water, with perfect thermistor & plug connection, change PCB.	
46	PCB sees ODU suction line thermistor as open or shorted . Must be 2,800Ω at 38°C / 100°F & 10,000Ω at 10°C/50°F. Ohm thermistor in water, with perfect thermistor & plug connection, change PCB.	
47	PCB sees ODU single-speed compressor discharge pipe thermistor as open or shorted . Must be 244,000Ω at 20°C/68°F, 24.400Ω at 90°C/194°F. Ohm thermistor in water, with perfect thermistor & plug connection, change PCB.	
48	PCB sees ODU coil outlet (liquid line) thermistor as open or shorted . 2,800Ω at 38°C / 100°F & 10,000Ω at 10°C/50°F. Ohm thermistor in water, with perfect thermistor & plug connection, change PCB.	
	13 SEER Split/Multi Split = Outdoor unit discharge and air sensor both unplugged.	
49	Verify AC voltage to ODU is 193-253V AC. If OK check fuses, if fuses OK, replace outdoor main PCB	
	50	Error code not used
51	Flex Multi cannot exceed 130% indoor units relative to outdoor.	
52	ODU communication error between inverter PCB and main outdoor unit PCB. Check wiring & fuses-verify LEDs on both PCBs are lit. If OK, either inverter or main PCB defective	
53	Communication error-Ensure that #3 communication wire is properly plugged into ODU PCB. See error code 5	
	55, 56	Error code not used
54	3-phase wiring issue	
57	Communication error between outdoor main PCB and inverter PCB. Check wiring & fuses-verify LEDs on both PCBs are lit. If OK, either inverter or main PCB defective	
	58, 59	Error code not used
60	EEPROM failure: Replace PCB if the EEPROM is non-removable. Call LG Tech Support for assistance.	
	PCB sees Condenser coil over 65°C / 149°F. Code is sensed at ODU in cool mode and IDU in heat mode. Verify coil, filters & blower wheel are clean and airflow OK. Check system pressures for non-condensables. Verify system is not running in high condenser coil temperature condition. Verify	
61	ALL thermistors on condenser coil (IDU/ODU depending on mode) are accurate. Can be caused by discrepancy among thermistors on same coil (ODU coils = 1-2 thermistors with metal tip, IDU coils 1-3 thermistors with metal tip). Must be 2,800Ω at 38°C / 100°F & 10,000Ω at 10°C/50°F. Ohm thermistor in water, with perfect thermistor & plug connection, change PCB.	
62	Inverter ODU PCB heat sink 85°C/185°F +. Verify air flow across heat sink, verify PCB tight to heat sink, use thermal paste. Thermistor = 10,000Ω at 25°C/77°F & 20,700Ω at 10°C/50°F. Ohm thermistor in water, with perfect thermistor & plug connection, change PCB.	

63	Condensor Coil Pipe Sensor Temp Low (opposite to Error Code 61). Code is sensed at ODU in cool mode & IDU in heat mode. Verify system is not running in low condenser coil temperature condition. Verify ALL thermistors on condensor coil (IDU/ODU depending on mode) are accurate-can be caused by discrepancy among thermistors on same coil (ODU coils = 1-2 thermistors, IDU coils 1-3 thermistors). 2,800Ω at 38°C / 100°F & 10,000Ω at 10°C/50°F. Ohm thermistor in water, with perfect thermistor & plug connection, change PCB.
	64 Error code not used
65	Outdoor unit inverter heat sink temperature sensor fault. Call LG Tech Support-some models have replaceable heat sink thermistors and newer product does not.
	66 Error code not used
67	ODU fan motor not rotating or proving rotation. Verify fan motor plugged in correctly & fan rotates freely. This can be a failed motor, failed board or motor could have failed and caused board failure as well.
73	Verify 310V DC on motor wires separated by empty terminals on plug with motor plugged in, 0V DC = failed PCB, 310V DC = likely failed motor.
	Next step: Unplug motor and manually spin the fan (keep it spinning): on same wires you just tested, 0V DC indicates motor failed and caused board failure. 14-30V DC indicates a good motor.
73	Inverter compressor drawing over 48 amps
89	Flex Multi LMUxxxHV units. DIP Switch 3 on outdoor PCB needs to be in OFF position.

Unplug thermistor from PCB, place probe in cold or ice water, measure the water temperature and compare ohm reading to ohm chart. Repeat with hot water to verify thermistor accuracy across a broad temperature range.



LG Suction & Liquid Line Thermistor Ohm Chart

Suction & Liquid thermistors (called Tube on previous documents) are used on **all piping & coils except the compressor discharge pipe**, whether on an indoor unit or an outdoor unit.

°C	°F	KΩ
OPEN		100
-25	-13	72.3
-20	-4	52.8
-15	5	39
-10	14	29.1
-5	23	22
0	32	16.8
2	35.6	15.1
4	39.2	13.6
6	42.8	12.3
8	46.4	11.1
10	50	10
12	53.6	9.1
14	57.2	8.3
16	60.8	7.5
18	64.4	6.8
20	68	6.2
22	71.6	5.7
24	75.2	5.2
25	77	5
26	78.8	4.7
27	80.6	4.5
28	82.4	4.3
29	84.2	4.1
30	86	4
31	87.8	3.8
32	89.6	3.6

°C	°F	KΩ
33	91.4	3.5
34	93.2	3.3
35	95	3.2
36	96.8	3.1
37	98.6	2.9
38	100.4	2.8
39	102.2	2.7
40	104	2.6
41	105.8	2.5
42	107.6	2.4
43	109.4	2.3
44	111.2	2.2
45	113	2.1
46	114.8	2.08
47	116.6	2.01
48	118.4	1.93
49	120.2	1.86
50	122	1.79
51	123.8	1.72
52	125.6	1.66
53	127.4	1.6
54	129.2	1.54
55	131	1.48
60	140	1.24
70	158	0.87
80	176	0.63
SHORT		0.4

LG Air Thermistor Ohm Chart

All air thermistors have **black plastic tips**, whether for an indoor or outdoor unit. Indoor air thermistors will be located on the right hand side of the indoor unit or in the return air flow. Outdoor air thermistors will be located in open air on the rear of the outdoor unit coil.

Air thermistors have been labeled "Ambient" in previous documents.

°C	°F	KΩ
OPEN		200
-10	14	62.4
-9	15.8	58.8
-8	17.6	55.4
-7	19.4	52.3
-6	21.2	49.4
-5	23	46.6
-4	24.8	44.1
-3	26.6	41.6
-2	28.4	39.3
-1	30.2	37.2
0	32	35.2
1	33.8	33.3
2	35.6	31.6
3	37.4	29.9
4	39.2	28.3
5	41	26.9
6	42.8	25.5
7	44.6	24.2
8	46.4	22.9
9	48.2	21.8
10	50	20.7
11	51.8	19.7
12	53.6	18.7
13	55.4	17.8
14	57.2	16.9
15	59	16.1

°C	°F	KΩ
16	60.8	15.3
17	62.6	14.6
18	64.4	13.9
19	66.2	13.2
20	68	12.6
21	69.8	12
22	71.6	11.5
23	73.4	10.9
24	75.2	10.4
25	77	10
26	78.8	9.5
27	80.6	9.1
28	82.4	8.7
29	84.2	8.3
30	86	7.9
31	87.8	7.6
32	89.6	7.2
33	91.4	6.9
34	93.2	6.6
35	95	6.3
36	96.8	6.1
37	98.6	5.8
38	100.4	5.6
39	102.2	5.3
40	104	5.1
45	113	4.2
SHORT		0.8

LG Discharge Pipe Thermistor Ohm Chart

Discharge thermistor will **only** be located in the discharge pipe immediately off the compressor.

Only discharge thermistors always have a white braided insulation.

°C	°F	kΩ
20	68	244
30	86	164.8
40	104	80.6
60	140	58.3
70	158	42.9
80	176	32.1
90	194	24.4
100	212	18.9
110	230	14.8
120	248	11.7

LG Canada HVAC Technical Support

866-543-8324

(follow prompt for Language, Tech Support then Heating & Air Conditioning)

www.LGcomfort.ca